

Nocturia: A Disease or Normal Aging?

Fonda D.

BJU International 1999;84(Suppl.1):13-15.

Nocturia increases with advancing age; more than 80% of people over the age of 80 rise at least once a night to void. According to Fonda, the normal range of nighttime awakenings to void must be standardized in order to assess effectively for any changes from the norm. Variations in age, sex, and cultural differences must also be considered. Another factor to consider is that nocturia is often underreported, especially among older people who tend to consider it untreatable and a normal part of aging.

There must be a greater understanding of whether nocturia is a result of a person voiding "more urine" and/or voiding "more often," and whether sleep disturbances may contribute to the problem. There are many factors associated with nocturia that can cause polyuria and/or nocturnal frequency: aging, psychological or behavioral changes, alterations in sleep patterns or amount of time spent in bed, polyuria syndromes, bladder problems, and neurological changes. They can occur alone or in combination with each other.

With advancing age, more time is spent in bed. Nocturia should be considered both as a disease and as part of

Nocturia is generally regarded as a normal part of the aging process.

normal aging. In managing the older person, Fonda posits that nocturia must be assumed to be a disease upon initial assessment. It should be fully evaluated so that appropriate treatment, if available, can be given. The results of nocturia in older people are lack of sufficient rest, daytime sleepiness, a risk of falling and fracturing a limb, and nocturnal enuresis.

Fonda concludes with a plea for prospective studies of older people with nocturia. The relative importance of various etiologic factors must be considered to assist the targeting of clinical trials to the most responsive groups.

Reference

1. Stewart RB, Moore MT, May FE, Marks RG, Hale WE. Nocturia: a risk factor for falls in the elderly. *J Am Geriatr Soc.* 1992;40:1217-1220.

Prostate Cancer

Cyclooxygenase-2 as a Marker for Prostate Cancer

Reviewed by Alan W. Partin, MD, PhD

The Brady Urological Institute, The Johns Hopkins Hospital, Baltimore, MD
[*Rev Urol.* 2001;3(2):107]

© 2001 MedReviews, LLC

A great deal of basic and clinical evidence is emerging that indicates that cyclooxygenase-2 (COX-2) may be a useful marker and a potential target for prostate cancer detection and treatment. It is known that COX-2 is an essential enzyme in the very early phases of prostaglandin synthesis from arachidonic acid. Nonsteroidal anti-inflammatory drugs (NSAIDs) act through inhibition of the cyclooxygenase enzymes. Population-based, case-control studies have suggested a reduced risk of prostate cancer with regular use of NSAIDs. The recent discovery by several pharmaceutical groups of specific inhibitors of the COX-2 protein has ignited great interest in the use of these agents for chemoprevention and/or treatment of prostate cancer. In a recent paper in the *British Journal of Urology International*, Madaan and colleagues demonstrated overexpression of the COX-2 enzyme in human prostate cancer.

Cytoplasmic Induction and Over-expression of Cyclooxygenase-2 in Human Prostate Cancer: Implications for Prevention and Treatment

Madaan S, Abel PD, Chaudhary KS, et al.

BJU Int. 2000;86:736-741.

The authors assess the level and morphologic distribution of both cyclooxygenase-1 (COX-1) and COX-2 in human prostates and investigated whether or not there was a relationship between the concentrations of these enzymes and the Gleason histologic grading of prostate cancer tissue. In this retrospective study, they analyzed prostate tissue from 30 patients with histologically confirmed benign prostatic hyperplasia (BPH) in 82 prostate cancer tumors. The authors used immunohistochemistry to assess the expression of both COX-1 and COX-2. In addition, they used Western blot techniques to study 13 samples (6 BPH and 7 cancer) for the presence of these enzymes. Although COX-1 expression was in fact found in the stromal

component of both BPH and prostate cancer tissue, it demonstrated weak cytoplasmic expression in both normal and neoplastic epithelial cells. The authors demonstrated significant ($P = .008$) increases in COX-2 expression in the epithelial component of prostate cancer tissue compared to normal or BPH tissue. They also noted marked differences in the immunohistochemical staining patterns as well. A strong correlation between COX-2 expression ($P < .001$) and Gleason histologic grading was found. Similar results were demonstrated by Western blotting.

The authors demonstrated significant ($P = .008$) increases in COX-2 expression in the epithelial component of prostate cancer tissue compared to normal or BPH tissue.

This study investigated the overexpression of COX-2 in human prostate cancer tissue and demonstrated a marked and significant difference between prostate cancer and BPH.

This important study and others like it have prompted both the National Cancer Institute and several pharmaceutical companies to initiate prospective, randomized, double-blind, placebo-controlled studies investigating the use of COX-2 inhibitors for both chemoprevention and treatment of prostate cancer. These randomized, controlled trials will address the issue of efficacy of these medications for these purposes and should provide useful clinical information within the next few years. This new class of medication may ultimately hold great promise as a weapon in our armamentarium in the fight against prostate cancer.

Pediatric Urology

Paternity and Hormone Levels

Reviewed by Ellen Shapiro, MD

New York University School of Medicine, New York, NY

[Rev Urol. 2001;3(2):107-108]

© 2001 MedReviews, LLC

Over the past 5 years, we have gained a better understanding of fertility in cryptorchid patients as a result of the male fertility studies at the Children's Hospital of Pittsburgh. This report examines paternity and

the hormone levels in males with unilateral undescended testis as it correlates to pretreatment testicular location.

It has been shown that bilateral cryptorchidism dramatically compromises fertility, while unilateral cryptorchidism decreases fertility to a level that is almost similar to controls. Infertility has been defined as a "lack of conception after more than 12 months of attempts to initiate a pregnancy." Therefore, unilateral cryptorchidism results in infertility in 10.5% of patients as compared with 5.4% in controls. In this select group of previously unilateral cryptorchid patients, there were significantly higher follicle-stimulating hormone (FSH) levels and lower sperm counts relative to controls. A risk for unsuccessful paternity includes increased FSH, decreased sperm density, varicocele, partner fertility problems, and a parenchymal suture placed through the testis at orchiopexy. These investigators have not identified an association between patient age at orchidopexy and successful paternity, although they did observe that inhibin-B levels were higher and FSH was lower when orchidopexy was performed before 2 years of age.

It has been shown that bilateral cryptorchidism dramatically compromises fertility, while unilateral cryptorchidism decreases fertility to a level that is almost similar to controls.

Paternity and Hormone Levels after Unilateral Cryptorchidism: Association with Pretreatment Testicular Location

Lee PA, Bellinger MT

J Urol. 2000;164:1697-1701

In study participants, the location of the testis was intra-abdominal in 11.3%, at the internal inguinal ring in 10%, intracanalicular in 41%, and at the external ring in 23.4%. The testis was ectopic or in the superficial pouch in 11.6%, and just above the scrotum in 2.8%. Paternity was achieved in 90% (288/320), while the remaining 32 were unsuccessful after at least 12 months. Paternity was somewhat lower for subjects whose testes were intra-abdominal (83.3%) versus those located at the internal inguinal ring (100%); however, this difference was not statistically significant. There was also no statistical difference between fertility rates in relation to the age at orchidopexy and pretreatment position. Although the previously unilateral cryptorchid patients had a 90% fertility rate, 24.9% needed more than 12 months to achieve conception, and testicular